

REMARKS/ARGUMENTS

The Official Action has been very carefully considered and the Examiner's comments are duly noted. Reconsideration of this Application in the light of the submission of substantially new Claims worded to overcome formal objections and Arguments submitted is respectfully solicited.

It is also respectfully requested that a three (3) months term extension be provided and our check in the amount of \$1,020.00 is enclosed. If any further charges are necessary, please charge or Deposit Account No. 50-3108. Please accept this as a Three Month Term Extension to render the Amendment timely.

With respect to some of the objections raised in the paragraphs prior to paragraph 6, these will be answered subsequent to the matter dealing with the rejection on prior art.

Reference is made to paragraph 6 of the Official Action in which former claims 30, 32, 34 to 36, 39, 52, 54 through 56 were rejected as fully met under 35 U.S.C. 102(e) by being anticipated by Kurihura et al. (U.S. Patent No. 6,038,189).

The Examiner notes that Kurihura et al. discloses a mold to assist in controlling the temperature thereof, as well as a corresponding method essentially as claimed, including at least one closed chamber B within the mold, a substantially vertical conduit including a lower inlet and an upper outlet, and a heat source adjacent a part of the conduit 71, and reference is made to Fig. 2B which is the third embodiment. It should be noted that the Claims are not directed to temperature control broadly, but how the temperature is controlled.

The claims have been redrafted and the various structural elements have now been positively recited, and the claims all now distinguish structurally, as well as functionally, and are no longer in narrative form. Further, all of the claims in various forms further particularly point out and distinctly claim the subject matter which the Applicant considers his invention to cover and which he desires to protect.

Applicant's attorney also wishes to point out and bring to the Examiner's attention that the present Application was drafted as a Patent Cooperation Treaty

Application, and based upon the rules and regulations of the Patent Cooperation Treaty, the Claims as originally presented, while they may appear to be functional, are in order. The Claims were written for all of the countries in the Patent Cooperation Treaty and follows the Patent Cooperation Treaty rules which include the United States, even though the United States, from solely domestic non-PCT Applicants in many instances requires more structure recitation. Nevertheless, the Claims as now written are respectfully submitted as suitable for the United States, even though some may be written with some of the functional statements. Therefore, an earnest attempt has been made to add the appropriate structure without in any way limiting the Claims. It is also to be noted that the Claims as amended and changed, which include structural recitations, are not considered to limit the Claims even though there are decisions indicating that a Claim that has been amended is a more limited Claim. Different courts in the future may interpret Claims differently.

With respect to the present invention, it should be pointed out that one of the features of the present invention is the freedom from oxygen in the chamber, and this particular statement or limitation has always been in each and every Claim, either directly or implicitly, and this feature which is the freedom from oxygen is implicit in the fact that there is a closed chamber so that this is simply filled with the vapour of the liquid, and therefore there is no added oxygen. Since there is no added oxygen, there will not be any added oxidation.

With respect to the invention as distinguished from the prior art, dealing specifically with the further citation, namely Kurihura et al. U.S. 6,048,189, this firstly is directed to so-called blow moulding techniques and appears to be a spray process which does not suggest in the slightest that there is any exclusion of air or a reduction in the chamber to merely the vapour of liquid within the chamber.

These words, of course, define what technically might be termed the low pressure or vapour only system.

The problem of the prior art relates to distribution of water in a way that does not unnecessarily increase the so-called internal head of water which can be simply caused

by a gathering of water where the depth of the actual pool wherever this is held will cause this higher pressure at the lower depth of the pool as compared to the top of the pool.

There does not appear to be any suggestion of any prior art of any relevance in this particular matter.

Various methods are used to close or seal the bottom of the parison before mold closing or part inflation, called pinch bars and are usually spring loaded, or hydraulically or pneumatically actuated. They may be bottom of the mold or positioned directly under it.

Clearly, it should be noted that the present invention is concerned with injection molding.

As noted heretofore, Kurihura et al. is concerned with a blow molding process and clearly, the use of a parison specifically draws that distinction. For the sake of the record, a parison is a hollow plastic tube which is used in blow molding to form bottles or other plastic objects and, further, reference is made to Vicat which is a softening temperature and this is also a matter with which the present text of the Patent cited by the Examiner is not related to the subject matter of the present Application. Specifically, the Vicat temperature is the temperature at which the needle penetrates 1mm.

The drawings to which the Examiner has referred is the Fig. 3 embodiment, and Fig. 3 embodiment is concerned with a blow molding process, not injection molding. The teaching of this Patent is to supply a resin film between the parison and the molding surface. Since Applicant is not concerned with a blow molding process, and since Applicant does not make any reference to a parison, in reality while this is in the art of molding, it should be considered to be a non-analogous prior art because the present prior art and the present Application are each concerned with a totally different molding process, and injection molding distinguished from blow molding as noted above.

In the discussion of the ninth example in Kurihura et al., and specifically in the eighth embodiment, reference is made to a foaming component. While the Examiner did not refer to this, the foaming agent is used for the parison. In particular, the foaming component employed in the cited Patent consists of only a foaming agent or a

combination of foaming agent and resin, and further the foaming agent is used to expand a part of parison foam. The text of the Patent then goes on to explain what the foaming agent is. However, as will be pointed out, the foaming agent is not used in the same manner as structure as defined in some of the claims or as taught in the specification of this Application.

Reference is made in the discussion of the ninth embodiment Figs. 18A to 18D that the injection heating steam as a heating medium and cooling water or air as a cooling medium is used and the mold body 3 and the main body 4 are formed of stainless steel. There is no discussion or appreciation or any concept or teaching to avoid oxidation.

The text of the Patent further notes that the foaming condition is caused uniformly and entirely of the hollow portion of the molded products and by injecting the foaming resin into the hollow portion of the molded product, the coefficient of thermal conductivity in the thickest direction of the molded product is 0.0278 kcal/mh. degree c.p. which quite to the teachings of this Patent is comparable with the coefficient of 0.0227 kcal/mh. degree C of the sole foaming agent, and clearly the foaming agent is being used for a totally different purpose.

The Patent is also concerned with superheated steam, and reference is made to column 24, lines 59 to 67, and continuing to column 25, line 6, which clearly indicates that the purpose of the foaming component is -- to expand a part of the parison --. Clearly, this is not what the present Application teaches nor suggests.

Reference is also made to column 28, lines 29 to 35, which further describes the matter of the foaming agent and the temperature comparison with the foaming resin and the molded product.

Reference is also made to column 31, lines 29 to line 19 of column 32, with reference to the use of superheated steam. This Application does not make any reference to superheated steam.

Turning now more specifically to the new claims 57 to 88, it will be noted that new claim 57 has been submitted and is considered to be generic to all of the embodiments and to distinguish from the only cited patent in issue. This patent does not

teach the subject matter claimed in Claim 57. Specifically, there is no disclosure of an overflow reservoir within the mold and wherein, at least part of the inner surfaces, is being coated with a surface material. Also, as noted above, consideration of the entire text does not indicate coating of a surface material. Then there is a second limitation in claim 57 in which the claim calls for the chamber to be only filled with the liquid and the liquid only partially fills such chamber. The remaining portion of the chamber is filled with a vapour resulting from the liquid; this is also not disclosed in the reference. The condensing means specifically sets forth that the condensation of the vapour within the chamber is in response to heat exchange. This is also not suggested in the reference. The claim also calls for an enabling means and this enabling means does cover all of the embodiments which enables the liquid to be arranged and used in the chamber in such a way that the liquid will be distributed to reach or be held at different heights within the chamber; this feature is also not disclosed in the reference.

Claim 57 is patentable and covers all of the different embodiments.

For the sake of order, this Application refers to Applicant's previous Patent Application and this is Serial Number 09/719,136, filed December 7, 2000.

All of the embodiments in this invention assist in keeping and providing for a more uniform temperature in the mold and, further, one of the problems which the inventor encountered and with which he is dealing is that the head of any liquid within the chamber causes the liquid at its deepest point within the body of the liquid to be under a higher pressure and therefore the liquid at the greater depth will "boil" at a higher temperature than the liquid at a lesser depth. This results in a temperature difference and it is desirable that these temperature differences be minimized. Clearly, this is an advantage of the present invention over the prior art and the prior art makes no reference or teaching in this respect. The enabling means refers to the ability to take care of the different heights. The specific embodiments and disclosures have been provided in the specification to explain different ways in order to accomplish the same purpose. The Examiner has objected to the use of this term broadly, but this is what is intended by the broad claims in this Application.

Reference is also made to the foaming, and clearly, as pointed out, the prior art uses the foaming for a different purpose. In accordance with the teachings of the present Application, as an alternative to the different heights, an additive has been selected to effect a foaming in order to accomplish the same purpose, see lines 21-22 of page 2 of the specification.

A further feature is pointed out in the Preamble of the Specification is that having the liquid arranged to foam as the liquid is caused to boil results in the liquid rising as foam containing vapour of the liquid to extend significantly the liquid as a film through the container. This has the added advantage of coating the walls of the chamber with the liquid; see page 2, line 25 and following of the specification.

The present invention further teaches that a relatively small amount of water with a relatively small amount of foaming agent is appropriate to create the foam.

Another feature of the invention is that some parts of the inner surface of the chamber are coated with a material so that surface tension implicit between the liquid and the material will assist in continue retention of the liquid against the wall. This is also not disclosed or suggested in the cited reference.

Various different features and embodiments of the invention have been claimed in claims 58 to 63 and 83.

For the sake of order, since all of the independent claims are considered to distinguish from the prior art, and all of the dependent claims do add specific features neither shown nor suggested in any of the references cited by the Examiner or prior art known to the Applicant, the independent claims will be discussed.

The claims call for the chamber to be filled with liquid, as well as vapour of the liquid. The further features have been previously discussed. Furthermore, the condensing means has also been discussed. Claim 64 calls for the distribution means to distribute the liquid to the chamber to be reached or held at different heights. This feature is also clearly not taught by any of the references of record.

Claim 84 is a new claim and closely related to some of the previous claims and further sets forth method steps neither shown nor suggested in the prior art. Specifically, the prior art does not disclose vapour of the liquid and the liquid itself in a closed chamber. In fact, this would not even be used in blow molding. Further, common inventive features with the apparatus claims have been included.

For the aforesaid reasons, it is respectfully submitted that all of the claims now in this Application clearly and patentably distinguish over the single prior art reference.

Turning now more specifically to paragraph 1 of the Official Action, Applicant's request for reconsideration of the election requirement, it should be noted that Applicant still elects to prosecute these first species or the embodiment of figures 1 and 2 which were drawn to claims 30, 31, 32, 34, 36, 39, 52, 54 to 56. For the sake of the record, claim 58 is based upon claim 30, but has been further amended to distinguish further and render it patentable over the prior art. The claim was presented as a new claim because of the numerous amendments and changes in dependencies of the claims. New Claim 64 is somewhat based on former claim 30.

New claim 36 is derived from former claim 32 but rendered more specific.

New claims 69 and 70 were derived from former claims 34 and 35 but because of the dependency on claim 64 are clearly different from the previously cancelled claim.

With respect to paragraph 2, and the claims based upon claims 31, 33, 37, 38, 40 through 51, and 53, which the Examiner indicates are withdrawn from consideration, reconsideration have again been requested because new claim 50 is considered to be generic, and since a generic claim has now been submitted which is considered to be patentable, reconsideration is in order. For the sake of the record, claim 65 is derived from claim 21, 67 from 33, 71 from claims 37 to 38, 73 from 40 to 51 for claim 86. All of these claims have been included here because Applicant is asking for reconsideration again.

With respect to paragraph 3, it is noted that the foreign priority has been accepted

Turning now more specifically to paragraph 4, it is respectfully submitted that the claims objected to in paragraph 5 do now specifically point out and distinctly claim the subject matter which Applicant regards as the invention. If the Examiner still disagrees on this particular point, the Examiner is respectfully asked to call Applicant's attorney for further consideration of these claims.

With regard to the second paragraph under paragraph 5, it should be noted that the claims previously on file were derived from an English language Australian application, and while both the United States and Australia use the same roots in the English language, there may be differences in terminology, but such differences do not render the claims as a literal translation. It is just that the claims were drafted for the Patent Cooperation Treaty Application and the claims as drafted for the Patent Cooperation Treaty Application are satisfactory in most countries. It is only the United States which requires more specific structure than some of the other countries.

In view of the foregoing, it should be noted that an earnest attempt has been made to overcome all of the Examiner's objections and to submit claims which are clearly patentable over the prior art cited in the present Application and known to the Applicant.

As noted heretofore, if there are any points outstanding, the Examiner is respectfully asked to call Applicant's attorney in order to do what is necessary to clarify certain points, as well as to place the Application into condition for allowance.

Early and favorable reconsideration of this Application, together with the allowance thereof, is respectfully solicited.

Respectfully submitted,

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